IN THE CLAIMS:

1 - 11 (canceled)

Please cancel claims 12-23 without prejudice

12-23 (canceled)

Please add the following new claims:

24. (New) An air-humidifying steam generator which humidifies air in an aircraft air conditioning system, comprising:

an air conditioning system;

a heat exchanger comprised of an envelope;

at least one first tank containing a water-based fluid, said or each tank is connected to the heat exchanger;

a thermochemical reactor connected to the heat exchanger, the thermochemical reactor consisting of a second tank containing a first reagent and a third tank containing a second a second reagent;

a steam discharge outlet connected to the envelope and to the air conditioning system; wherein the envelope is about the second tank;

wherein the first reagent and the second reagent are combined to create a thermochemical reaction in the second tank; converting the water-based fluid held in the envelope into steam; and

wherein the steam is released into the aircraft air conditioning system through the steam discharge outlet.

25. (New) The steam generator in claim 24, wherein the envelope houses the second tank in a coaxial orientation.

26. (New) The steam generator in claim 25, wherein the first reagent is a composite of calcium chloride and expanded natural graphite and the second reagent is an ammonia gas.

27. (New) The steam generator in claim 26, wherein the envelope is made of metal.

28. (New) The steam generator in claim 27, further comprising a conduit with a free open end, wherein the air conditioning system having a duct; and wherein the steam discharge

outlet connects to the conduit, and the free open end opens into the duct of the air conditioning system.

29. (New) The steam generator in claim 28, wherein the free open end of the conduit is equipped with a diffuser.

30. (New) The steam generator in claim 29, wherein the envelope is equipped with a pressure safety valve which keeps the fluid under steam pressure while the fluid is being vaporized in said envelope.

31. (New) The steam generator in claim 30, wherein the first tank is connected, through an intermediary of distribution piping to the heat exchanger, the distribution piping equipped with a valve allowing adjustment of the flow rate of the fluid toward the heat exchanger.

32. (New) The steam generator in claim 31, wherein the third tank is connected through a valve to the first tank.

33. (New) The steam generator in claim 32, further comprising a control unit, and wherein the valves are power-operated and controlled by the control unit allowing adjustment of the flow rate of the steam produced by the steam generator.

34. (New) An air-humidifying steam generator which humidifies air in an aircraft air conditioning system, comprising:

an air conditioning system;

a heat exchanger comprised of an envelope;

at least one first tank containing a water-based fluid, said or each tank is connected to the heat exchanger;

a thermochemical reactor connected to the heat exchanger, the thermochemical reactor consisting of a second tank containing a first reagent and a third tank containing a second reagent;

a steam discharge outlet equipped with a diffuser, the steam discharge outlet connected to the envelope and to the air conditioning system;

wherein the envelope is about the second tank in coaxial orientation;

wherein the first reagent and the second reagent are combined to create a thermochemical reaction in the second tank, converting the water-based fluid held in the envelope into steam; and

wherein the steam is released into the aircraft air conditioning system through the steam discharge outlet.

35. (New) An air-humidifying steam generator which humidifies air in an aircraft air conditioning system, comprising;

an air conditioning system;

a heat exchanger comprised of a metal envelope;

at least one first tank containing a water-based fluid, said or each tank is connected to the heat exchanger;

a thermochemical reactor connected to the heat exchanger, the thermochemical reactor consisting of a second tank containing a first reagent and a third tank containing a second reagent;

a steam discharge outlet equipped with a diffuser , the steam discharge outlet connected to the envelope and to the air conditioning system;

wherein the envelope is about the second tank, in a coaxial orientation;

wherein the first reagent is a composite of calcium chloride and expanded natural graphite and the second reagent is an ammonia gas,

wherein the first reagent and the second reagent are combined to create a thermochemical reaction in the second tank, converting the water-based fluid held in the envelope into steam; and

wherein the steam is released into the aircraft air conditioning system through the steam discharge outlet.